UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
BIN C15700
Seattle, WA 98115-0070

Refer to:
2002/00510

August 26, 2002

Ms. Bonnie Wood
Forest Supervisor
Malheur National Forest
P.O. Box 909
John Day, Oregon 97845

Re: Endangered Species Act Section 7 Formal Consultation and Magnuson-Stevens Act Essential Fish Habitat Consultation on the Effects of Malheur National Forest Grazing Program for FY2002.

Dear Ms. Wood:

Enclosed is a biological opinion (Opinion) prepared by the National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7 of the Endangered Species Act (ESA) on the effects of the livestock grazing program administered by the Malheur National Forest (MNF) for FY2002 in the John Day River basin, Oregon. These actions were proposed by the MNF in a letter and biological assessment (BA) dated May 15, 2002. NOAA Fisheries concludes in this Opinion that the proposed action is not likely to jeopardize Middle Columbia River (MCR) steelhead. As required by section 7 of the ESA, NOAA Fisheries included reasonable and prudent measures with non-discretionary terms and conditions that NOAA Fisheries believes are reasonable and appropriate to minimize the impact of incidental take associated with this action.

This Opinion also serves as consultation on essential fish habitat pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation Management Act and implementing regulations at 50 CFR Part 600. The Middle Fork and Upper John Day River subbasins have been designated as EFH for chinook salmon.

Please direct any questions regarding this consultation to Eric Murray, of my staff, in the Oregon Habitat Branch, La Grande Field Office, at 541.975.1835 ext 222.

Sincerely,

for Michael R Course

D. Robert Lohn
Regional Administrator

cc: Larry Bright, MNF
Jennifer O'Reilly, USFWS
Tim Unterwegner, ODFW
John Morris, BLM

Endangered Species Act - Section 7 Consultation
&
Magnuson - Stevens Act
Essential Fish Habitat Consultation

BIOLOGICAL OPINION

Malheur National Forest, Livestock Grazing Program for
FY 2002

Agency:	U.S.D.A Forest Service
Consultation Conducted by:	NOAA Fisheries, Northwest Region
Date Issued:	August 26, 2002
Issued By:	for Michael R Crouse D. Robert Lohn Regional Administrator
Refer to:	**OHB2002-0135**

TABLE OF CONTENTS

1. ENDANGERED SPECIES ACT

1.1 Background

On May 20, 2002, the National Marine Fisheries Service (NOAA Fisheries) received a letter from the Malheur National Forest (MNF), dated May 15, 2002, requesting consultation regarding the potential effects of the proposed FY2002 livestock grazing program on MNF-administered allotments in the Upper John Day River (UJDR) and Middle Fork John Day River (MFJDR) subbasins on Middle Columbia River (MCR) steelhead. The accompanying biological assessment (BA) described proposed livestock grazing actions for FY2002 on the Blue Mountain Ranger District (BMRD), Emigrant Creek Ranger District (ECRD), and Prairie City Ranger District (PCRD), as well as the environmental baseline, and the potential effects of those actions on MCR steelhead and their habitat in the UJDR and MFJDR subbasins within the MNF.

During the 2001 grazing season, problems occurred with the administration of the range program on the MNF (U.S. Forest Service 2001). These problems included trespass of cattle and unauthorized use of various allotments or pastures. In addition, utilization standards were exceeded in several allotments, a situation exacerbated by the relatively dry year. In an effort to gather more detailed information, NOAA Fisheries sent a letter dated December 4, 2001, to the MNF asking for an explanation of the unauthorized use and trespass incidents that occurred during the 2001 grazing season. The letter also requested a meeting between the MNF, NOAA Fisheries, and U.S. Fish and Wildlife Service (USFWS) to review the results of 2001 grazing actions. The agencies agreed to meet at the end of February. The letter also reminded the MNF that an annual report of grazing activities was due.

The terms and conditions of the 2001 Biological Opinion (refer to: NOAA Fisheries OHB2001-0065) issued on October 12, 2001, required the MNF to provide a report of grazing activities on the Forest by December 31, 2001. The report was to include specific information as specified in term and condition 2(e) of the 2001 Biological Opinion. The MNF was late in submitting the report (received by NOAA Fisheries February 22, 2002), and some of the required information was missing from the report.

On February 28 and March 1, 2002, the MNF, NOAA Fisheries, and USFWS met to review the 2001 grazing report, address problems that occurred during the 2001 grazing season, and develop solutions to avoid these problems in the future. It was agreed during this meeting that NOAA Fisheries and USFWS would work together to develop a monitoring report format to ensure consistency and sufficiency in future MNF annual grazing reports. The MNF also agreed to include information in their 2002 BA indicating how changes in allotment management would address any problems that occurred during the 2001 grazing season.

NOAA Fisheries listed the MCR steelhead (*Onchorynchus mykiss*) as threatened under the Endangered Species Act (ESA) on March 25, 1999 (64 FR 14517). NOAA Fisheries applied protective regulations to MCR steelhead under section 4(d) of the ESA on July 10, 2000 (65 FR 42422).

The objective of this Opinion is to determine whether the subject FY2002 livestock grazing program is likely to jeopardize the continued existence of MCR steelhead.

1.2 Proposed Actions

The May 15, 2002, BA submitted to NOAA Fisheries describes proposed livestock grazing activities for FY2002 on 11 allotments in MFJDR subbasin, located on the BMRD, 19 allotments on the UJDR subbasin, located on the BMRD, three allotments in the UJDR, located on the ECRD, and four allotments in the UJDR, located on the PCRD. The BA provided proposed use dates, livestock numbers, and location of each allotment. A summary of allotment information is found in Table 1, below.

In the BA, the MNF determined that activities on 31 of the 37 livestock grazing allotments for the 2002 grazing season are "may affect, but not likely to adversely affect" (NLAA) actions regarding MCR steelhead. Rationale for these determinations made by the MNF are included in Table 2, below.

Table 1. Location, Proposed Use Dates, Proposed Use Numbers, and Effects Determination for MNF Grazing Allotments, 2002

Allotment	Subbasin	Ranger District	Proposed Use Dates[1]	Proposed Use Numbers Cow/Calf Pairs[2]	MNF's Determination of Effect on MCR Steelhead
Balance	MFJDR	BMRD	June 1-October 30	50	NLAA
Bear	MFJDR	BMRD	June 1-October 15	84	NLAA
Blue Mountain	MFJDR	BMRD	June1-September 30	175	LAA
Camp Creek	MFJDR	BMRD	June 1-October 30	50	NLAA
Keeney Meadows	MFJDR	BMRD	July 1-August 31	57	NLAA
Long Creek	MFJDR	BMRD	June 1-October 15	967	LAA
Lower Middle Fork	MFJDR	BMRD	June1-October 15	120	NLAA
Slide Creek	MFJDR	BMRD	June 1-October 15	777	NLAA
Upper Middle Fork	MFJDR	BMRD	June 1-October 15	321	LAA
War Canyon	MFJDR	BMRD	June 5-August 5	32	NLAA
York	MFJDR	BMRD	June 1-October 31	50	NLAA
Aldrich	UJDR	BMRD	May 15-September 1	275	NLAA
Dead Horse	UJDR	BMRD	June 1-October 15	175	NLAA
Dixie	UJDR	BMRD	June 1-October 15	300	LAA
Fawn Springs	UJDR	BMRD	June 1-October 15	110	NLAA

Allotment	Subbasin	Ranger District	Proposed Use Dates[1]	Proposed Use Numbers Cow/Calf Pairs[2]	MNF's Determination of Effect on MCR Steelhead
Ferg	UJDR	BMRD	August 1-November 27	80	NLAA
Fields Peak	UJDR	BMRD	June 15-October 15	240	NLAA
Hanscombe	UJDR	BMRD	June 1-October 15	121	NLAA
Joaquin & Williams	UJDR	BMRD	May 15-November 15	3 + 20 horses	NLAA
Justice	UJDR	BMRD	June 27-July12	80	NLAA
Lewis, Frenchy & Poison	UJDR	BMRD	May 1-September 30	63	NLAA
McClellan	UJDR	BMRD	September 1-October 15	65	NLAA
Mt. Vernon/JD/Beech	UJDR	BMRD	May 15-November 30	531	LAA
Murderers Creek	UJDR	BMRD	May 20-October 30	900	LAA
Rosebud	UJDR	BMRD	June 1-September 20	87	NLAA
Roundtop	UJDR	BMRD	June 1-September 30	200	NLAA
Seneca	UJDR	BMRD	June 15-October 30	321	NLAA
Smoky	UJDR	BMRD	June 1-September 30	150	NLAA
Snowshoe	UJDR	BMRD	June 1-October 5	100	NLAA
Sugarloaf	UJDR	BMRD	June 15-October 15	355	NLAA
Izee	UJDR	ECRD	June 1-September 30	345	NLAA

Allotment	Subbasin	Ranger District	Proposed Use Dates[1]	Proposed Use Numbers Cow/Calf Pairs[2]	MNF's Determination of Effect on MCR Steelhead
Lonesome & Badley	UJDR	ECRD	June 1-September 30	510	NLAA
Sawtooth	UJDR	ECRD	August 13-September 30	308	NLAA
Deardorf	UJDR	PCRD	July 6-October 20	100	NLAA
Hot Springs	UJDR	PCRD	May 20-October 15	145	NLAA
Rail Creek	UJDR	PCRD	August 1-September 30	150	NLAA
Reynolds Creek	UJDR	PCRD	July 5-September 19	166	NLAA

[1] Proposed use dates may vary by five days at either end of the proposed use period, depending on allotment conditions. The total number of days on the allotment will not vary. For instance, if the allotment is used five days early, the off date will also be five days earlier. Dates designed to protect spawning MCR steelhead are not subject to change.

[2] Proposed numbers represent the maximum number of livestock on the allotment during the year. The permittee or MNF may decide to reduce numbers at any time during the grazing season.

Table 2. Rationale for NLAA Determinations on MNF Grazing Allotments for 2002 Grazing Season

Allotment Name	Watershed (5th Field HUC)	Rationale for NLAA Determination
Blue Mountain Ranger District		
Balance	Balance Creek	No spawning habitat on MNF land. Utilization controlled by fencing, salting, and herding. Bank stability >89 percent. Habitat indicators will be maintained. The Grazing Implementation Monitoring Module (USDA Forest Service and USDI Bureau of Land Management, 2000) and BLM will be implemented; monitoring will focus on the riparian areas in Balance Creek.
Bear	MFJDR	On C-1 and C-2 pastures prior to July 15, increased monitoring used to keep livestock off streambanks. Level 1 monitoring will include weekly checks for use along streambanks during grazing periods. Electric fence will be constructed if redds present. On remaining pastures, no grazing adjacent to steelhead streams before July 15. The Grazing Implementation Monitoring Module will be implemented.
Camp Creek	Camp Creek	Move triggers monitored; herding, salt, season changes, fence maintenance, and water troughs to protect riparian zones. Bank stability >90 percent. Habitat indicators will be maintained. Prior to turnout of livestock, streams in the allotment will be surveyed for steelhead spawning activity. The Grazing Implementation Monitoring Module will be implemented; 40 percent on Category 1 pastures and 10 percent Category 2 pastures.
Keeney Meadows	SF Long Creek	No known fish-bearing streams. Current conditions will be maintained. The Grazing Implementation Monitoring Module will be implemented.
Lower Middle Fork	MFJDR	Intensified management efforts include: herding, salt, season use/area changes, fence maintenance, troughs, and stock ponds. Pizer pasture has electric fence or is blocked by topography/logs; maintaining baseline habitat indicators. The Grazing Implementation Monitoring Module will be implemented.
Slide Creek	Slide Creek	Bank stability at 82-98 percent. During steelhead spawning, Sale pasture will be fenced to avoid grazing pressure. The Grazing Implementation Monitoring Module will be implemented; Jungle Creek, Bear Creek, Whiskey Creek, Slide Creek, and Rice Creek riparian areas will be monitored. Whiskey Creek will be surveyed to determine the level of steelhead spawning occuring.

Allotment Name	Watershed (5th Field HUC)	Rationale for NLAA Determination
War Canyon	SF Long Creek	No fish-bearing streams. Current conditions will be maintained. The Grazing Implementation Monitoring Module will be implemented; areas that best represent typical utilization within the allotment will also be monitored.
York On/Off	Slide Creek	No steelhead habitat in pastures to be used before July 15. Current conditions will be maintained. The Grazing Implementation Monitoring Module will be implemented; the focus of monitoring will be the York riparian areas.
Aldrich	Murderers Creek	No steelhead spawning habitat on MNF land; all habitat indicators at least maintained.
Dead Horse	Mt. Vernon	That portion of the North Pasture to be grazed prior to July 15 is upstream from a 15-foot waterfall on Riley Creek and inaccessible to steelhead; all habitat indicators at least maintained.
Fawn Springs	Canyon Creek	No steelhead spawning habitat in East Fork Canyon or Wall Creeks on allotment (May 2, 2000, MNF survey)[1]; all habitat indicators at least maintained.
Ferg On/Off	Beech Creek	No perennial streams on MNF in this allotment.
Fields Peak	Fields and Murderers Creek	Tex Creek and Miners Creek pastures will not be grazed during 2002; Fields Peak pasture will not be grazed until September 16; all habitat indicators at least maintained.
Hanscomb	Mt. Vernon	Water diversions on private land downstream from MNF prevent access to that portion of Laycock Creek on allotment; all habitat indicators at least maintained.
Joaquin & Williams	Canyon Creek	No streams on MNF in this allotment. No steelhead spawning or rearing habitat in East Fork Canyon or Wall Creeks on allotment (May 2, 2000, MNF survey)[1]; all habitat indicators at least maintained.
Justice	Beech Creek	No steelhead spawning habitat on allotment; fence excludes livestock from upper Beech Creek; all habitat indicators at least maintained.
Lewis Creek, Frenchy & Poison	Upper South Fork & Middle South Fork	Located upstream from Izee Falls (an anadromous fish barrier) on SFJDR; no streams on MNF portion of allotment.
McClellan	Mt. Vernon	Water diversions on private land downstream from MNF prevent access by MCR steelhead to that portion of McClellan Creek on allotment; all habitat indicators at least maintained.

[1] MCR steelhead spawning habitat surveys conducted by Perry Edwards and Tom Mendenhall, fishery biologists.

Allotment Name	Watershed (5th Field HUC)	Rationale for NLAA Determination
Rosebud	Middle South Fork	Located approximately nine stream miles upstream from Izee Falls (an anadromous fish barrier) on the South Fork JDR; no measurable downstream impacts.
Roundtop	Beech Creek/ Prairie City	Pastures containing steelhead spawning habitat will not be entered until after July 15; all habitat indicators at least maintained.
Seneca	Canyon Creek	All but 0.25 mile of Vance Creek is fenced to exclude cattle; surveys conducted on five occasions during 2000 found that cattle did not use that portion of Vance Creek because of dense brush and lack of palatable herbaceous vegetation.
Smokey	Upper South Fork	Located approximately 20 stream miles upstream from Izee Falls (an anadromous fish barrier) on the SFJDR; streams on allotment are small and contribute very little water to SFJDR; no measurable downstream impacts.
Snowshoe	Upper South Fork	Located approximately 20 stream miles upstream from Izee Falls (an anadromous fish barrier) on the SFJDR; streams on allotment are small and contribute very little water to SFJDR; no measurable downstream impacts.
Sugarloaf	Canyon Creek	Pastures containing steelhead spawning habitat will not be entered until after July 15; all habitat indicators at least maintained.
Emigrant Creek Ranger District		
Sawtooth	Upper South Fork	Located approximately 25 stream miles upstream from Izee Falls (an anadromous fish barrier) on the SFJDR; a portion of Sunflower Pasture is only part of allotment within SFJDR drainage; streams on allotment are small and contribute very little water to SFJDR; no measurable downstream impacts.
Lonesome & Badley	Upper South Fork	Located approximately 15 to 17 stream miles upstream from Izee Falls (an anadromous fish barrier) on the SFJDR; streams on allotment are small and contribute very little water to SFJDR; no measurable downstream impacts.
Izee	Upper South Fork	Located approximately 17 stream miles upstream from Izee Falls (an anadromous fish barrier) on the SFJDR; streams on allotment are small and contribute very little water to SFJDR; no measurable downstream impacts.
Prairie City Ranger District		
Deardorff	Upper John Day	Cattle would be turned out on July 6 but would be excluded from steelhead spawning habitat until after July 15; all habitat indicators at least maintained.

Allotment Name	Watershed (5th Field HUC)	Rationale for NLAA Determination
Hot Springs	Upper John Day	Cattle will not be turned out in the Hot Springs Pasture, which is the only one that contains steelhead spawning habitat, until July 15; all habitat indicators at least maintained.
Rail Creek	Upper John Day	Cattle will not be turned out in the allotment until August 1; all habitat indicators at least maintained.
Reynolds Creek	Upper John Day	MNF will conduct unauthorized use monitoring, mid-season monitoring, and frequent meetings with the permitees to ensure proper allotment management occurs.

NOAA Fisheries concurs with MNF's NLAA determination for the 31 allotments listed in Table 2, with concurrence based on the rationale summarized in Table 2. In addition, MCR steelhead habitat indicators such as bank stability, sediment, and width to depth ratios are improving under the current grazing practices. Other habitat indicators, not affected by grazing directly such as road density, will be maintained by the proposed grazing system. This Opinion serves as the NOAA Fisheries concurrence on these allotments.

The Herberger, McCullough, Austin, and Sullens allotments on the BMRD will be rested in 2002, and were, therefore, determined by the MNF to have "no effect" on MCR steelhead.

Six range allotments (Dixie, Mt.Vernon/John Day/Beech Creek, Murderers Creek, Blue Mountain, Long Creek, Fields Peak and Upper Middle Fork) on the BMRD (for the 2002 grazing season) were determined by the MNF as "may affect, and likely to adversely affect" (LAA) MCR steelhead. The grazing activities on these allotments will be analyzed in detail in this Opinion.

1.3 Allotment Descriptions

The six allotments the MNF has determined to be LAA are fully described in the BA. Anticipated use dates, number of livestock, pasture rotation, and associated streams with MCR steelhead habitat are summarized for each of these allotments in Table 3.

Table 3. Livestock Numbers, Anticipated Use Dates, and Streams with MCR Steelhead Spawning Habitat on MNF for LAA Allotments.

ALLOTMENT/ pasture	Cow/Calf Pairs	Anticipated Dates of Use	Associated Streams with MCR Steelhead Spawning Habitat on MNF
Upper John Day River			
DIXIE Bear Creek	260	June 1-August 1	Bear Creek, Hall Creek
Standard Creek (tributary to Dixie Creek)	262	August 2-October 15	Standard Creek and tributaries; Dixie Creek and tributaries
MV-JD-BC Belshaw	233	June 11-July 20	Birch Creek
Bear Creek	239	July 21-October 10	Bear Creek (trib. to Beech Creek)
Ennis	239	June 11-July 19	Clear Creek, East Fork Beech Creek
McClellan	239	July 20-October 25	McClellan Creek (trib. to E.Fk. Beech Creek)
"On"	239	May 15-November 30	Bear, McClellan, Beech, East Fork Beech
South Fork John Day River			
MURDERERS CREEK *NORTH HERD* Oregon Mine	275	July 20-August 21	Murderers Creek
Dan's Creek	275	August 22-September 10	No steelhead habitat
Martin Corral	275	September 11-October 30	Murderers Creek
Red Rocks	275	September 11-October 30	Duncan Creek (rearing only)
MIDDLE HERD Timber Mountain	250	June 1-June 30	South Fork Murderers Creek and Crazy Creek tributary
Maggot Spg.	250	July 1-July 5	No steelhead habitat
Blue Ridge	250	July 6-August 1	South Fork Murderers Creek
Lucera	250	August 2-August 16	No fish-bearing streams
Horse Mountain	250	August 17-September 1	No steelhead habitat

JYM	250	September 1-September 10	South Fork Murderers Creek
SOUTH HERD Frenchy Butte	375	July 8-August 25	Deer Creek
Deer Creek	375	August 26-October 5	Deer Creek, Corral Creek
JYM	375	October 6-October 14	South Fork Murderers Creek
Middle Fork John Day River			
BLUE MOUNTAIN West Summit	175	June 19-July 4	Middle Fork John Day River, Clear Creek
Crawford Creek	175	July 5-August 14	Crawford Creek
Idaho Creek	175	August 15-September 10	Idaho Creek
East Summit	175	September 6-September 25	Summit Creek, Squaw Creek
LONG CREEK Lick Creek	967	June 1-July 15	Camp Creek, Cougar Creek, Trail Creek, Lick Creek, West Fork Lick Creek
Hiyu	967	July 16-August 31	Coxie Creek, Deep Creek,
Flat Creek	967	September 1-October 15	Camp Creek, Cottonwood Creek, Long Creek
UPPER MIDDLE FORK Caribou	100	June 15-October 1	Little Boulder Creek, Windless Creek, Caribou Creek, Granite Boulder Creek
Butte	190	July 16-October 31	Butte Creek, Little Butte Creek, Ragged Creek
Lower Vinegar	100	September 1-October 15	Vincent Creek, Vinegar Creek

1.3.1 Dixie Allotment

The Dixie Allotment is located in the Prairie City 5th field watershed. This allotment contains 18,180 acres of MNF-administered land. The BLM administers 2,548 (this area is addressed in a separate consultation by NOAA Fisheries) acres on this allotment, and there are 5,994 acres of private land. According to the BA submitted by the MNF, there are approximately two miles of Dixie Creek, two miles of Standard Creek, and 1.5 miles of Hall Creek that provide MCR steelhead spawning habitat on this allotment. There are two pasture units on the MNF portion of the Dixie Allotment, both of which contain MCR steelhead habitat. In 2002, the Bear Creek pasture, which contains portions of Bear Creek and Hall Creek, would be grazed from June 1 to August 1. The Standard Creek pasture, which contains portions of Standard and Dixie Creeks, will be grazed from August 2 to October 15. Bear Creek enters the JDR from the north, near

river mile (RM) 258.5, and Hall Creek is a tributary to Bear Creek. Dixie Creek enters the JDR from the north near RM 262 at Prairie City, Oregon, and Standard Creek is a tributary to Dixie Creek. The MNF conducted spawning surveys in the spring of 2001 on Upper Bear, Hall, Dixie, and Standard Creeks. No steelhead redds were found, but the location of potential steelhead spawning areas were located and mapped. The permittees will provide a rider to herd livestock, and distribute salt for utilization by livestock in such a manner as to provide for resource protection, maintenance of fences and water developments, monitoring grazing use, and reporting potential concerns to the MNF. Monitoring efforts on this allotment will focus on riparian areas of Bear, Dixie, and Standard Creeks.

1.3.2 Mt. Vernon-John Day-Beech Creek Allotment

The Mt. Vernon-John Day-Beech Creek (MV-JD-BC) Allotment is located in Mt. Vernon's and Beech Creek's 5th field watersheds, and contains 49,583 acres of MNF-administered land. There are seven pasture units on MNF-administered land in this allotment. The Cohoe and Belshaw Meadows pastures do not contain steelhead habitat, but all other pasture units (Belshaw, Bear Creek, Ennis, McClellan, and Beech Creek) do. In 2002, livestock turnout will occur prior to July 15 on the Ennis, Belshaw, and Beech Creek pastures. The Beech Creek "on/off" pasture is used periodically by small groups of cattle (35 cow/calf pairs) when moving to other pasture units. In the Ennis Pasture, MCR steelhead spawning habitat is present in Clear Creek, and the East Fork of Beech Creek. In the Belshaw Pasture, steelhead spawning habitat is present in Belshaw and Birch Creeks. In the Beech Creek unit, Bear, McClellan, Beech, and East Fork Beech all contain steelhead habitat. According to the BA, a MNF fishery biologist completed MCR steelhead spawning habitat surveys during July of 2000 on McClellan, Birch, Belshaw, and Clear Creeks to determine where steelhead spawning habitat exists. Findings of those surveys are summarized in section 1.6.2. Belshaw Creek enters the JDR from the north near RM 228, Birch Creek enters from the north near RM 233, and Beech Creek from the north near RM 239 at Mt. Vernon, Oregon. Bear Creek and the East Fork of Beech Creek are tributaries to Beech Creek, and Clear Creek and McClellan Creek are tributaries to the East Fork of Beech Creek.

In the Ennis pasture, riding, salting, and use of upland water sources will be used to minimize cattle use along Clear and East Fork Beech Creeks. In addition, much of Clear Creek is inaccessible to livestock because of its steep topography.

In the Belshaw pasture, a fence along Belshaw Creek excludes cattle from most of that stream. Steep topography and dense vegetation limit access by livestock to Birch Creek in the Belshaw pasture.

The permittees will provide a rider to herd livestock, and distribute salt for utilization by livestock in such a manner so as to provide for resource protection, maintenance of fences and water developments, monitoring grazing use, and reporting potential concerns to the MNF. Riparian areas associated with McClellan, Nipple, Clear, Hog, Johnson, Thompson, East Fork

Beech, Laycock, Bear, Belshaw, Wildcat, and Cummings Creeks will be considered as key areas for monitoring in this allotment.

1.3.3 Murderers Creek Allotment

The Murderers Creek Allotment is located in the Murderers Creek and Deer Creek 5th field watersheds, and contains 52,600 acres of suitable grazing land. There are 10 pasture units on MNF-administered lands in this allotment, and only six of those pastures contain steelhead spawning and rearing habitat. Murderers Creek and Deer Creek are tributaries to the SFJDR near RM 16 and RM 28 downstream from Izee Falls. The allotment is grazed by three separate herds of cattle (North, Middle, and South). Murderers Creek and tributaries drain pastures used by the North Herd and most of the pastures used by the middle herd. Murderers Creek, South Fork Murderers Creek, and Crazy Creek provide spawning and rearing habitat for MCR steelhead, while several smaller tributaries provide rearing habitat. Deer Creek and its tributaries drain pastures used by the south herd. Deer Creek and Corral Creek provide spawning and rearing habitat for MCR steelhead, while several tributaries provide rearing habitat.

Cattle in the north herd will be turned out in the Aldrich Ridge/Cabin-Todd pasture on May 20, 2002. Todd and Cabin Creeks in this pasture provide some rearing habitat for MCR steelhead, but are too steep to provide spawning habitat. Cattle will not be turned out on the Oregon Mine, Dans Creek, Martin Corrals, or Red Rocks pastures until after July 15. An electric fence will be installed around the riparian meadow on Thorn Creek (Oregon Mine Pasture) along Road 2170, as a precaution to keep out stragglers. Cattle will not be allowed to concentrate upstream of the Oregon Mine Campground along Murderers Creek. Monitoring will focus on riparian areas along Murderers Creek, Thorn Creek, and Duncan Creek.

The middle herd will be turned out in the Timber Mountain pasture on June 22, 2002, but not allowed to trail down Crazy Creek to the South Fork of Murderers Creek. The South Fork of Murderers Creek will not be grazed prior to July 15, and will be checked three times per week prior to that time. Upland placement of salt, and frequent herding will be used to keep cattle out of riparian areas. Salt must be placed at least .25 miles away from streams, springs or wetlands, and away from roads. Monitoring will focus on riparian areas along the South Fork of Murderers Creek and Crazy Creek.

The south herd will be turned out in the Frenchy Butte pasture on July 8, but not allowed on Deer Creek before July 15. MNF range and fisheries personnel will monitor steelhead spawning areas to ensure that no cattle enter these areas until after July 15. Monitoring will focus on riparian areas along Deer, Lower Vester, Buck, Dead Injun, North Fork Deer, South Fork Deer, and Corral Creeks.

The permittees have hired a full-time rider to herd livestock, and distribute salt for utilization by livestock in such a manner so as to provide for resource protection, maintenance of fences and water developments, monitoring grazing use, and reporting potential concerns to the MNF. The

rider will check the South Fork of Murderers Creek three times per week, and move any cattle found out of the area. Key riparian areas which will be monitored on this allotment are: (1) Deer Creek from the forest boundary to Dead Injun Creek; (2) Lower Vester, Buck, Dead Injun, and North Fork Deer Creeks; (3) Corral Creek upstream to Alder Creek; (4) South Fork Deer Creek to above exclosures; (5) South Fork Murderers Creek from forest boundary to Bark Cabin Creek; (6) South Fork Murderers Creek from Bark Cabin Creek to Beaverdam Creek; (7) Thorn and Duncan Creeks; (8) Crazy Creek from confluence to one mile upstream; (9) Murderers Creek from the forest boundary to Stewart Cabin; and (10) Murderers Creek from Stewart Cabin to Guard Station.

1.3.4 Blue Mountain Allotment

The Blue Mountain Allotment contains 22,447 acres of MNF administered land. According to the BA, there are approximately 21 miles of steelhead bearing streams, including Crawford Creek, Idaho Creek, Summit Creek, Clear Creek, and the upper MFJDR. The West Summit pasture has portions of the Middle Fork of the John Day River, as well as Clear Creek. Both provide steelhead spawning and rearing habitat. The Crawford Creek pasture contains most of Crawford Creek, and the Idaho Creek pasture has the majority of Idaho Creek within its boundaries. Both the Crawford and Idaho Creeks provide steelhead spawning and rearing habitat. The East Summit pasture contains a significant portion of Summit Creek, which also provides steelhead spawning and rearing habitat. Crawford Creek enters the MFJDR near RM 70, and Summit Creek enters near RM 70.5. Livestock will be turned out in the Squaw Creek Unit on June 16, and then moved to the West Summit unit on June 19. The Crawford Creek and Idaho Creek units will not be grazed until after July 15. Habitat conditions are summarized in section 1.6.2. The permittees will provide a rider to herd livestock, and distribute salt for utilization by livestock in such a manner so as to provide for resource protection, maintenance of fences and water developments, monitoring of grazing use, and reporting potential concerns to the MNF. The proposed monitoring for this allotment is the Grazing Implementation Monitoring Module developed by the Interagency Implementation Team. In addition, the Idaho Creek unit will be monitored for move triggers in 2002, because move trigger standards were not met in 2001.

1.3.5 Long Creek Allotment

The Long Creek allotment contains 49,628 acres of MNF administered land. There are seven pasture units in this allotment, however, Camp Creek, Keeney Meadows, Lick Creek Riparian, and Ladd pastures will be used only for gathering and for pasturing strays. The primary pastures that the MNF proposes to use during the 2002 season are Flat Camp, Lick Creek, and Hiyu. The only pasture that does not contain steelhead habitat is the Keeney Meadows pasture. In 2002, livestock turnout on the Lick Creek pasture would occur prior to July 15. The Lick Creek pasture contains steelhead spawning and rearing habitat in Camp Creek, Cougar Creek, Trail Creek, Lick Creek, and the West Fork of Lick Creek. From the Lick Creek pasture, cows are moved into the Camp Creek Riparian pasture and the Lick Creek Riparian pasture. These pastures are both short-use pastures, and serve as gathering pastures prior to the cows being

moved into the Hiyu pasture. The Hiyu pasture contains steelhead spawning and rearing habitat in Coxie and Deep Creeks, and will be used until August 31, at which time the livestock will be moved to the Flat Camp pasture. The Flat Camp pasture contains steelhead spawning and rearing habitat in Long Creek and Cottonwood Creek. Camp Creek enters the MFJDR near RM 48, and Long Creek enters near RM 6. Habitat conditions are summarized under section 1.6.2. The permittees will provide a rider to herd livestock, and distribute salt for utilization by livestock in such a manner so as to provide for resource protection, maintenance of fences and water developments, monitoring grazing use, and reporting potential concerns to the MNF. Portable solar-powered water units will be used as needed to attract cows away from streams. The proposed monitoring for this allotment is the Grazing Implementation Monitoring Module developed by the Interagency Implementation Team. A MNF fish biologist will conduct spawning surveys to determine the amount of spawning in early use pastures. An electric fence will be used, if necessary, to protect steelhead spawning locations.

1.3.6 Upper Middle Fork Allotment

The Upper Middle Fork Allotment contains 54,537 acres of suitable grazing land. There are eight pasture units on MNF administered lands in this allotment. Vinegar Creek enters the MFJDR near RM 65. The allotment will be grazed in 2002 by two different sets of permittees. One set will move 150 cow/calf pairs into the Austin pasture on June 1. The cattle will then be moved on August 1 to the Upper Vinegar pasture and the Lower Vinegar Allotment on September 1. Another set of permittees will move 321 cow/calf pairs into the Caribou pasture on June 1. The cattle will then be moved to the Butte pasture on July 16, and then the Lower Vinegar Unit on September 1. The Shop and River units will be used for short periods for gathering livestock. The permittees will provide a rider to herd livestock, and distribute salt for utilization by livestock in such a manner so as to provide for resource protection, maintenance of fences and water developments, monitoring grazing use, and reporting potential concerns to the MNF. The proposed monitoring for this allotment is the Grazing Implementation Monitoring Module developed by the Interagency Implementation Team.

1.4 Allotment Monitoring

An April 14, 2000, a USFS/BLM memorandum transmitted the "2000 Grazing Implementation Monitoring Module (IIT)" to the MNF and other National Forests and Bureau of Land Management (BLM) districts in Oregon. The MNF conducted implementation monitoring in 2001 as directed in the module on MNF administered allotments in the UJDR and MFJDR subbasins and will do so again in 2002. Areas where monitoring will be focused are described above under each allotment. Monitoring efforts, move triggers, and protective measures for each allotment are summarized in Appendix A.

The MNF is within the area covered by PACFISH (USDA and USDI 1994). All agency activities in this area are required to be consistent with their Land and Resource Management Plan (LRMP) as modified by PACFISH. The broad scale consultation for MCR steelhead on the MNF's land and resource management plan is currently incomplete. As a result, NOAA

Fisheries' 2001 biological opinion on MNF grazing allotments required in term and condition 2(a) that grazing activities must be consistent with the requirements of NOAA Fisheries' June 22, 1998, biological opinion, "Section 7 Consultation on the Effects of Continued Implementation of Land and Resource Management Plans on Endangered Species Act Listed Salmon and Steelhead in the Upper Columbia and Snake River Basins" (NMFS1998).

1.5 Biological Information

NOAA Fisheries listed the MCR steelhead ESU as threatened under the ESA on March 25, 1999 (64 FR 14517). Protective regulations for MCR steelhead were issued under section 4(d) of the ESA on July 10, 2000 (65 FR 42423).

Biological information concerning the MCR steelhead is found in Busby *et al.* (1996). The current status of the MCR steelhead, based upon their risk of extinction, has not significantly improved since the species was listed.

The JDR is the largest river system within the range of MCR steelhead free of dams. There is also currently no artificial propagation of steelhead in the system, and runs are composed completely of native stocks. However, there is some straying of hatchery fish into the JDR system from the Columbia River (Unterwagner and Gray 1997). The ODFW estimates yearly returns of adult steelhead to the JDR basin from 3,900 to 36,400, with estimated escapement averaging 13,988 adults since 1987. The MFJDR has historically contributed 23 percent of the total run for the basin (USFWS and NOAA Fisheries 1981). NOAA Fisheries (1997) citing Chilcote (1997) states that recent MCR steelhead redd counts conducted in established index areas throughout the JDR basin suggest universal declines in redd abundance ranging from -0.9 to -5.6 percent over the past several years.

The MFJDR and its tributaries provide spawning, rearing, and migratory habitat for both adult and juvenile life stages of MCR steelhead. Adult MCR steelhead enter the Columbia River beginning in the spring and migrate upriver through the summer, fall, and winter, seeking their tributary of origin. By early the following spring, the adults have reached their natal streams and spawn in gravel redds/nests from March to early June. Deposited eggs usually hatch by July of the same year. The resulting juveniles will spend from one to four years rearing to smolt size at which time they will begin their migration to the ocean. According to the BA, MCR steelhead adults enter the JDR as early as September with peak migration in October, depending on water temperature. Spawning in the John Day basin occurs from March to mid-June. Izee Falls at RM 28.5 on the SFJDR and within the upper JDR subbasin is a natural barrier to upstream migration of anadromous fish. Fry emergence timing depends on time of spawning and water temperature during egg incubation, but usually occurs from late May through the end of June. MCR steelhead rear in the cooler tributary streams and in the mainstem JDR upstream from the community of John Day, Oregon (RM 248). High summer water temperatures in the mainstem downstream from Mt. Vernon, Oregon (RM 240) preclude summer rearing by juvenile salmonids.

Important components of the adult spawning, juvenile rearing, and adult and juvenile migratory habitat for this species are: Substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food (juvenile only), riparian vegetation, space, and safe passage conditions. The essential features that the proposed project may affect are: Substrate, water quality, water temperature, water velocity, cover/shelter, food, and riparian vegetation.

1.6 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NOAA Fisheries must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of defining the biological requirements and current status of the listed species, and evaluating the relevance of the environmental baseline to the species' current status. Subsequently, NOAA Fisheries evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NOAA Fisheries must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action; (2) the environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NOAA Fisheries finds that the action is likely to jeopardize, NOAA Fisheries must identify reasonable and prudent alternatives for the action. For the proposed action, NOAA Fisheries' jeopardy analysis considers direct or indirect mortality of fish attributable to the action.

1.6.1 Biological Requirements

The first step in the methods NOAA Fisheries uses for applying the ESA section 7(a)(2) to listed MCR steelhead is to define the species' biological requirements that are most relevant to each consultation. NOAA Fisheries also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NOAA Fisheries starts with the determinations made in its decision to list MCR steelhead for ESA protection and also considers new data available that is relevant to the determination.

The relevant biological requirements are those necessary for MCR steelhead to survive and recover to naturally-reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environment. For this consultation, the biological requirements are improved habitat characteristics that function to support successful adult and juvenile migration, spawning and rearing.

MCR steelhead survival in the wild depends on the proper functioning of certain ecosystem processes including habitat formation and maintenance. The restoration of improperly

functioning habitat to a more properly functioning condition will likely lead to improved survival and recovery of MCR steelhead. In conducting analyses of habitat-altering actions, NOAA Fisheries defines the biological requirements in terms of a concept called Properly Functioning Condition (PFC) and applies a "habitat" approach to its analysis (NMFS 1999). The current status of MCR steelhead, based on their risk of extinction, has not improved much since the species was listed.

1.6.2 Environmental Baseline

The environmental baseline is an analysis of the effects of past and on-going human-caused and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The "action area" is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR 402.02). The "action area" for this consultation, therefore, includes: (1) Dixie Creek, Bear Creek, and their tributaries within or adjacent to the MNF-administered portions of the Dixie Allotment; (2) Beech Creek, East Fork Beech Creek, Belshaw Creek, and their tributaries within or adjacent to the MNF administered portions of the Mt. Vernon-John Day-Beech Creek Allotment; (3) Murderers Creek, Deer Creek, and their tributaries within or adjacent to the MNF administered portions of the Murderers Creek Allotment; (4) Crawford Creek, Idaho Creek, Summit Creek, Squaw Creek, Clear Creek, Middle Fork JDR (downstream to the forest boundary), and their tributaries within or adjacent to the MNF administered portions of the Blue Mountain Allotment; (5) Camp Creek, Cottonwood Creek, Cougar Creek, Coxie Creek, Lick Creek, Long Creek, West Fork Lick Creek, Jonas Creek, and their tributaries within or adjacent to the MNF administered portions of the Long Creek Allotment; and (6) Vincent Creek, Vinegar Creek, Little Boulder Creek, Windless Creek, Caribou Creek, Granite Boulder Creek, MFJDR (downstream to the forest boundary), Ruby Creek, Butte Creek, Little Butte Creek, Ragged Creek, Placer Gulch Creek, and their tributaries within or adjacent to the MNF administered portions of the Upper Middle Fork Allotment. These streams contain spawning, rearing, or migratory habitat for MCR steelhead.

The UJDR subbasin encompasses 1,008,414 acres from the headwaters of the JDR in the Blue and Strawberry Mountains downstream to the NFJD River confluence at RM 185 near Kimberly, Oregon. The MNF administers 427,298 acres (42.4 percent) in the UJDR subbasin. Another 41.8 percent is private, 8.2 percent is administered by BLM, 5.4 percent is on the Ochoco National Forest, and 2.2 percent is owned by the State of Oregon. Major tributaries within the subbasin include Rock Creek, the SFJDR, Beech Creek, Canyon Creek, Dixie Creek, and Strawberry Creek. The MNF administered portions of the three livestock grazing allotments addressed in this Opinion comprise a total of approximately 120,350 acres (12 percent) of the land in the UJDR subbasin.

The MFJDR subbasin encompasses 506,853 acres from its headwaters to its confluence with the NFJDR at RM 32.2. The MNF manages 270,473 acres (53 percent) of the subbasin. Major tributaries to the MFJDR include Clear Creek, Big Creek, and Granite Boulder Creek. The

MNF-administered portions of the three livestock allotments addressed in this Opinion comprise a total of approximately 126,600 acres (25 percent) of the land in the MFJDR subbasin.

Environmental baseline conditions within the action area were evaluated for the subject actions at the project level and watershed scales. The results of this evaluation, based on the "matrix of pathways and indicators" (MPI) described in *Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996) follow. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species.

In the UJDR subbasin, 13 of the 19 habitat indicators in the MPI were rated as "functioning at risk." These are: Nutrients, large woody debris, large pools, off-channel habitat, refugia, width/depth ratio, streambank condition, floodplain connectivity, change in peak/base flow, drainage network increase, disturbance history, riparian habitat conservation areas, and disturbance regime. Six of the 19 were rated as "not properly functioning." These are: Temperature, sediment, physical barriers, substrate embeddedness, pool frequency and quality, and road density and location. None of the habitat indicators were rated by the MNF as properly functioning. The environmental baseline conditions for each habitat indicator in the MPI are described in the BA, and incorporated into this Opinion by reference. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species. An assessment of the essential features of MCR steelhead habitat are obtained by using the MPI process to evaluate whether aquatic habitat is properly functioning.

In the MFJDR subbasin, 13 of the 19 habitat indicators in the MPI were rated as "functioning at risk." These are: Sediment, nutrients, large woody debris, off-channel habitat, refugia, width/depth ratio, streambank condition, floodplain connectivity, change in peak/base flow, drainage network increase, disturbance history, riparian habitat conservation areas, and disturbance regime. Six of the 19 were rated as "not properly functioning." These are: Temperature, physical barriers, substrate embeddedness, pool frequency and quality, large pools, and road density and location. None of the habitat indicators were rated by the MNF as properly functioning. The environmental baseline conditions for each habitat indicator in the MPI are described in the BA, and incorporated into this Opinion by reference. These habitat indicators provide the template for assessing the important elements of MCR steelhead habitat. This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species. An assessment of the essential features of MCR steelhead critical habitat is obtained by using the MPI process to evaluate whether aquatic habitat is properly functioning.

Many of the pastures or units of allotments on the MNF contain areas where the current grazing practices are hindering the attainment of Riparian Management Objectives (RMO) (USDA, USDI, 1994). In some areas, for instance, livestock browsing of shrubs may be preventing the establishment of the healthy riparian plant community necessary to provide shade and large

woody debris. Although many of these areas are located in the LAA allotments analyzed in detail in this Opinion, other areas of allotments the MNF has determined to be NLAA may have similar problems. Currently, the MNF has not located or identified many of these potential problem areas, but plans to begin this process during the FY2002 grazing season. NOAA Fisheries is not aware of any additional information that would aid in locating or analyzing the effects of these areas on MCR steelhead or its habitat. As these areas are identified, the MNF will begin to carry out riparian habitat restoration efforts or changes in grazing practices to address these problems.

1.6.2.1 Allotment-Specific Conditions

Blue Mountain Allotment

According to the BA, stream survey data on habitat parameters in Crawford Creek in the Crawford Creek pasture of the Blue Mountain Allotment indicate that streambank stability is greater than 90 percent. Average shade was low, ranging from three to 29 percent. In the Idaho Creek pasture, Idaho Creek exhibits high streambank stability with an average of 98 percent. Shade ranged from 41 to 58 percent. Summit Creek in the East Summit pasture has streambank stability that ranges from 82 to 93 percent and stream shade that ranges from 37 to 53 percent. The MFJDR and Clear Creek in the West Summit pasture also exhibit high streambank stability with averages of 91 and 94 percent respectively. Shade on the MFJDR was 38 percent but only 28 percent on Clear Creek. Crawford and Summit Creeks and the MFJDR are on the Clean Water Act (CWA) section 303(d) list for exceeding water temperature standards.

Potential MCR steelhead spawning habitat has been found on Crawford Creek, Idaho Creek, Summit Creek, Squaw Creek, Clear Creek, and the MFJDR .

During the 2001 season, IIT stubble height standards were not met in the Idaho Creek and Crawford Creek units of the Blue Mountain Allotment. According to the BA, the MNF will inform the permitee and rider that stubble height standards must be met even in dry years, and this may require moving cattle out of the units earlier in the season. The MNF will also monitor the Idaho Creek unit for move triggers during the 2002 grazing season.

Long Creek Allotment

Stream survey data on habitat parameters in Camp Creek, Cottonwood Creek, and Long Creek in the Flat Camp, Flat Cow Camp, and Ladd pastures indicates that stream stability is high with values ranging from 92 to 98 percent. In the Lick Creek pasture, Camp Creek, Cougar Creek, Trail Creek, and the West Fork of Lick Creek also exhibited high streambank stability with values ranging from 89 to 100 percent. In the Hiyu and Keeney Meadows pastures, Coxie and Deep Creeks had bank stability of 99 and 97 percent, respectively. Potential MCR steelhead spawning habitat exists in Camp Creek, Cottonwood Creek, Long Creek, Cougar Creek, Trail Creek, West Fork Lick Creek, Coxie Creek, and Deep Creek. Camp and Long Creeks are on the CWA section 303(d) list for exceeding water temperature standards.

During the 2001 grazing season, excessive use occurred in the Lick Creek Unit of the Long Creek allotment. A lack of water sources in this allotment, compounded by the very dry conditions during the summer, caused cows to congregate in riparian areas and cause bank damage. Spawning surveys conducted in 2001 did not indicate any MCR steelhead spawning activity in Lick, Cougar, Camp or Trail Creeks.

Upper Middle Fork Allotment

Mill Creek, within the Austin pasture, had 91 percent stable banks, and stream shading was 40 percent. In the Upper Vinegar and Lower Vinegar pastures, Vincent Creek exhibited greater than 90 percent bank stability. In the Caribou pasture, bank stability was high on Little Boulder Creek, Windless Creek, Caribou Creek, and Granite Boulder Creek with values ranging from 82 to 99 percent. Shade on Little Boulder Creek ranged from 23 to 28 percent while shade ranged from 43 to 50 percent on Windlass Creek. Caribou Creek had shade ranging from 18 to 38 percent and on Granite Boulder Creek shade ranged from 34 to 40 percent. The MFJDR has 90 percent stable banks in the Shop and River pastures while Ruby Creek's bank stability ranges between 91 to 96 percent. Shade on Ruby Creek ranged from 23 to 64 percent. In the Butte Creek pasture, Butte Creek, Little Butte Creek, and Ragged Creek all exhibited greater than 86 percent stable banks. Shade ranged from 31 to 66 percent. The only stream data available for the Deerhorn pasture is for Placer Gulch Creek and indicates that average shade was 34 percent. Potential MCR steelhead spawning habitat has been found on Vincent Creek, Vinegar Creek, Little Boulder Creek, Windless Creek, Caribou Creek, Granite Boulder Creek, MFJDR, Ruby Creek, Butte Creek, Little Butte Creek, Ragged Creek, and Placer Gulch Creek. Caribou, Granite Boulder, Little Boulder, Little Butte, Ragged, and Vinegar Creeks are on the CWA section 303(d) list for exceeding water temperature standards.

Excessive use occurred during the 2001 grazing season in the Deerhorn unit of the Upper Middle Fork allotment. The median height of stubble for 30 monitoring points was three inches. Recreational use in the riparian area of Davis Creek causes additional disturbance to riparian vegetation and streambanks in this area. The Lower Vinegar and Austin units met IIT stubble standards, had little or no shrub use, and very little bank damage.

Dixie Allotment

Stream survey data on habitat parameters in Dixie, Standard, and Wickiup Creeks in the Standard Creek pasture of the Dixie Allotment indicate that streambank stability is high on all streams, ranging from 99 to 100 percent. Stream substrates are embedded in Dixie Creek, but not in other streams. Shrub cover along streambanks ranged from 23 to 87 percent, and stream shade from 50 to 63 percent. In the Bear Creek pasture, Bear Creek and Hall Creek also have stable streambanks (98-99 percent) and non-embedded substrates, with shrub cover ranging from 25 to 60 percent, and stream shade from 25 to 68 percent. Bear Creek is on the CWA section 303(d) list for exceeding water temperature standards, no other streams on this allotment are on the list.

Surveys conducted by MNF personnel during July of 2000 found potential MCR steelhead spawning habitat in Bear Creek and Dixie Creek on this allotment. No suitable MCR steelhead

spawning habitat was found in Hall Creek (a Bear Creek tributary), as substrate was large and embedded. The reach of Bear Creek surveyed was classified as Rosgen "B" channel type, while Dixie Creek (0.2 mile downstream from Forest Road 2050) was classified as Rosgen "C" channel type (Rosgen 1996). No MCR steelhead habitat is present in the East Fork of Dixie Creek (Dixie Meadows). In the headwaters of main Dixie Creek (Rosgen "B" channel type), some poor-quality MCR steelhead spawning gravel is present, but is heavily embedded. The segment of Standard Creek which was surveyed consisted of Rosgen "A" and "B" channel types, and most of the substrate was too large for MCR steelhead spawning. No steelhead redds were found during the 2001 survey.

Mount Vernon-John Day-Beech Creek Allotment

Stream survey data on streams in this allotment found streambank stabilities of 87 percent on Belshaw Creek, 92-96 percent on Bear Creek, 87 percent on Beech Creek, 73-84 percent on Clear Creek, 80 percent on the East Fork Beech Creek, and 86 percent on McClellan Creek. Substrates of all streams on this allotment were found to be embedded. No information was available on streambank cover or stream shading. Belshaw Creek is on the CWA 303(d) list for exceeding temperature standards. Beech Creek and its tributaries are not on the CWA 303(d) list.

Surveys conducted by MNF during July of 2000 found potential MCR steelhead spawning habitat in McClellan, Birch, and Belshaw Creeks. There are numerous beaver dams in McClellan Creek downstream from the forest boundary on private land, some of which may be partial barriers to upstream migration by adult MCR steelhead at certain stream flows. Small patches of poor quality spawning substrate were found in Rosgen "C" and "B" channel types just upstream from private land in the McClellan Pasture. Further upstream in McClellan Creek (T12S, R31E, Section 11, NE1/4 of NE1/4) good quality MCR steelhead spawning gravel was found in Rosgen "C" channel types. Upstream from that reach, the valley becomes narrower, creating a Rosgen "B" channel type and substrate is too large to be used by MCR steelhead for spawning. Birch Creek in the Belshaw Pasture is mostly steep "A" channel type with no spawning gravels, with one short reach of "B" channel containing a few small patches of poor quality (highly embedded) gravel. The lower 0.5 mile of Belshaw Creek (just upstream from private property) contains good quality MCR steelhead spawning gravel. No steelhead redds were found during the 2000 survey.

In the Ennis pasture, much of Clear Creek is inaccessible to livestock because of steep topography. In the Belshaw pasture, a fence along Belshaw Creek excludes cattle from most of that stream. Steep topography and dense vegetation limit access by livestock to Birch Creek in the Belshaw pasture.

According to the end-of-year Range Report for 2001 provided by the MNF, the McClellan unit of this allotment did not meet IIT stubble height standards. The standards were not met in the McClellan Creek riparian area because cattle tend to concentrate in this area due to the availability of forage and water. Efforts planned to keep cattle out of riparian areas include herding, salt placement, and spring development.

Murderers Creek Allotment

Stream survey information on this allotment indicates streambank stabilities of 91-100 percent for Murderers Creek, 97 percent for Crazy Creek, 85 percent for South Fork Murderers Creek, and 99 percent for Deer Creek. Stream substrates for all streams were found to be embedded. Sensitive areas along the South Fork of Murderers Creek are fenced to exclude cattle, and other sections of the stream are too steep and entrenched to allow cattle access. No information was available on streambank cover or stream shading. As mentioned above, Murderers Creek is on the CWA 303(d) list for exceeding water temperature standards.

Wild horses are present in all pasture units within the Murderers Creek Allotment. Over-utilization of riparian vegetation and streambank trampling by these horses may occur in some stream reaches where these animals tend to concentrate.

Surveys conducted by MNF personnel during July of 2000 found potential MCR steelhead spawning habitat in South Fork Murderers Creek and Crazy Creek in the Timber Mountain pasture of this allotment. The lower 250 yards of Crazy Creek were found to contain some fair-to-poor quality spawning gravels in a Rosgen "B" channel type. The South Fork of Murderers Creek contains fair-to-good quality MCR steelhead spawning habitat in a mostly "B" with short sections of "C" channel types in the Timber Mountain pasture.

According to the end-of-year Range Report for 2001 provided by the MNF, stubble height standards were not met in the Frenchy Butte unit of this allotment. The cattle on this allotment were allowed to remain in the Deer Creek area for too long, resulting in resource damage. There was also unauthorized use by livestock in this area. Oregon Department of Fish and Wildlife (ODFW) spawning surveys indicated the presence of MCR steelhead redds in Deer Creek in 2001. The MNF has proposed an extensive monitoring plan for this unit in order to prevent these problems from occurring during the FY2002 grazing season (see Appendix A).

The end-of-year Range Report for 2001 states that the Timber Mountain unit of this allotment suffered resource damage, including overutilization of forage, bank damage, and possible impacts to spawning steelhead. Cattle were present in the areas where steelhead spawning occurred prior to July 15, even though allotment management is designed to prevent this. According to the BA, the MNF will increase monitoring efforts in this allotment to prevent this situation from occurring during the FY2002 grazing season.

1.7 Analysis of Effects

1.7.1 Effects of Proposed Actions

NLAA Allotments

In the BA, the MNF determined that activities on 31 of the 37 livestock grazing allotments for the 2002 grazing season are NLAA actions for MCR steelhead. NOAA Fisheries concurs with the MNF's determinations that livestock grazing for the 2002 grazing season on these allotments are NLAA MCR steelhead. The rationale for reaching these determinations for each allotment can be found in Table 2 of this Opinion. NOAA Fisheries' concurrence is based on the

following findings: (1) Timing of grazing rotations are such that cattle are not in pastures or are excluded from streams until July 15 in those pastures which contain or are adjacent to streams in which MCR steelhead may spawn; (2) exclusion measures include fencing or existing topographical and other natural features (*e.g.* thick brush, downed trees) that prevent livestock access to streams where MCR steelhead may spawn; (3) current grazing management strategies and monitoring requirements implemented by the MNF minimize impacts of livestock grazing on riparian vegetation and streambank stability on these MNF-administered livestock grazing allotments; and (4) MCR steelhead habitat indicators such as bank stability, sediment, and width to depth ratios are improving under the current grazing practices. NOAA Fisheries believes there is less than a negligible likelihood of take of MCR steelhead or adverse effects to their habitat.

LAA Allotments

The effects determinations in this Opinion were made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. The effects of actions are expressed in terms of the expected effect (restore, maintain, or degrade) on aquatic habitat factors in the action area. For the proposed actions, MCR steelhead habitat indicators for the action area will be maintained in the long term.

Impacts of livestock grazing to stream habitat and fish populations can be separated into direct and indirect effects. Direct effects are those which contribute to the immediate loss or harm to individual fish or embryos (*e.g.*, directly stepping on a fish, trampling a redd that results in the actual destruction of embryos, or dislodging the embryos from the protective nest and ultimately destroying eggs). Indirect effects are those impacts which occur at a later time, causing loss of specific habitat features (*e.g.*, undercut banks, sedimentation of spawning beds), localized reductions in habitat quality (*e.g.*, sedimentation, loss of riparian vegetation, changes in channel stability and structure), and, ultimately, cause loss or reductions of entire populations of fish, or widespread reductions in habitat quantity and/or quality.

Direct effects of livestock grazing may occur when livestock enter the streams occupied by MCR steelhead to loaf, drink, or cross the stream. During the early phases of their life cycle, MCR steelhead have little or no capacity for mobility, and large numbers of embryos or young are concentrated in small areas. Livestock entering fish-spawning areas can trample redds, and destroy or dislodge embryos and alevins. Belsky *et al.* (1997) provide a review of these direct influences on stream and riparian areas. Wading in streams by livestock can be assumed to induce mortality on eggs and pre-emergent fry at least equal to that demonstrated for human wading (Roberts and White 1992). In this investigation, a single wading incident upon a simulated spawning bed induced 43 percent mortality of pre-hatching embryos. In a recent (July 12, 2000) occurrence of unauthorized livestock grazing in the Sullens Allotment on the MNF, five out of five documented MCR steelhead redds in a meadow area of a Rosgen C-type stream channel in Squaw Creek (MFJDR subbasin) were trampled by cattle (U.S. Forest Service memorandum, August 17, 2000).

Avoidance of direct impacts to MCR steelhead spawning areas can be achieved by scheduling grazing in pastures containing spawning habitat to occur after July 15, or by excluding known spawning areas from livestock access. As mentioned above, the ODFW guidelines for the timing of in-water work in the JDR basin, which are designed to protect salmonid species, do not allow in-water work in any stream in the basin prior to July 15. The period during which spawning MCR steelhead adults may be susceptible to harassment, or eggs and pre-emergent fry susceptible to trampling by livestock, is from March 15 to July 15 in the JDR basin streams. In some allotments or pastures, there are pre-existing natural topographic, geologic, and vegetative features, or high spring water flows that naturally exclude or minimize livestock use from spawning areas. Other forms of direct take (*e.g.*, harassment of MCR steelhead by livestock when livestock enter or are adjacent to occupied habitat, resulting in MCR steelhead behavioral modifications) are more difficult to address in the context of an economically viable grazing program. Direct take in the form of harassment can be reduced in the long term by rangeland management that results in better riparian and in-channel habitat conditions, and create more cover and other important habitat features conducive to MCR steelhead survival and recovery.

Cattle wading into a stream to loaf, drink, or cross the stream have the potential to frighten juvenile MCR steelhead from streamside cover. Once these juveniles are frightened from cover and swim into open water, they become more susceptible to predation from larger fish and avian predators. However, NOAA Fisheries believes that the risk of mortality of juvenile salmonids due to flushing from cover by watering cattle is minimal.

Numerous symposia and publications have documented the detrimental effects of livestock grazing on stream and riparian habitats (Johnson *et al.* 1985; Menke 1977; Meehan and Platts 1978; Cope 1979; American Fisheries Society 1980; Platts 1981; Peek and Dalke 1982; Ohmart and Anderson 1982; Kauffman and Krueger 1984; Clary and Webster 1989; Gresswell *et al.* 1989; Kinch 1989; Chaney *et al.* 1990, Belsky *et al.* 1997). These publications describe a series of synergistic effects that can occur when cattle over-graze or impact riparian areas. Over time, woody and hydric herbaceous vegetation along a stream can be reduced or eliminated; livestock trampling causes streambanks to collapse; without vegetation to slow water velocities, hold the soil, and retain moisture, flooding causes more erosion of streambanks; the stream becomes wider and shallower and in some cases downcut; the water table drops; and hydric, deeply rooted herbaceous vegetation dies out and becomes replaced by upland species with shallower roots and less ability to bind the soil. The resulting instability in water volume, increased summer water temperature, loss of pools and habitat adjacent and connected to streambanks, and increased substrate fine sediment and cobble-embeddedness adversely affect MCR steelhead and their habitat.

Indirect effects (defined in 50 CFR 402.02) of livestock grazing on riparian and instream habitats may include compacting stream substrates, collapse of undercut banks, destabilized streambanks, localized reduction or removal of herbaceous and woody vegetation along streambanks and within riparian areas, increased width/depth ratio, reduced pool frequency, promotion of incised channels, and lowering water tables (Platts 1991). Belsky *et al.* (1997) provides a review of these indirect influences on stream and riparian areas. Riparian areas in poor condition are

unable to buffer the effects of accelerated runoff. Accelerated runoff can cause unstable stream channels to downcut or erode laterally, accelerating erosion and sediment production (Chaney *et al.* 1990). Lateral erosion results in progressively wider and shallower stream channels that have warmer water temperatures, less structure, and are less productive, thus adversely affecting fish populations. Streambank hoof shearing, hummocking, bank sloughing and inadequate carry-over vegetation reduces bank stability and silt filtration capacity (Kinch 1989).

Based on plant phenology, the only grazing strategies generally considered to have a good chance for rehabilitating degraded streams and riparian areas are light or tightly controlled uses such as winter-only grazing, or riparian pastures with short, early-spring use periods, and certain strategies incorporating a full-season rest (Platts 1991). Clary and Webster (1989) consolidated a number of studies to outline measures needed for maintenance and restoration of fully functioning riparian areas. They recommend resting most poor ecological condition (percent similarity of riparian vegetation to the potential natural community/composition less than 25 percent; or stream bank/channel condition rating of "poor") riparian areas and applying "riparian grazing management practices" such as spring-only grazing and residual vegetation requirements to riparian areas in fair (percent similarity of riparian vegetation to the potential natural community/composition 26-50 percent or better, and stream bank/channel condition rating of at least "fair") or better ecological condition. They stress that even ecologically conservative grazing systems will not succeed without good range management such as adequate fencing, good distribution of water and salt, and adequate riding to ensure uniform cattle distribution. Cow/calf pairs have a tendency to concentrate and loaf in riparian areas during mid to late summer.

Concentrated livestock use, as often occurs in uncontrolled season-long and certain rotational grazing systems, may cause unacceptable damage to woody plants and streambank morphology (Clary and Webster 1989). Spring and winter season use generally produce better livestock distribution between riparian and upland areas due to flooding of riparian areas that limits access for cattle, the presence of palatable forage on the uplands, and alternative water sources (Leonard *et al.* 1997, Ehrhart and Hanson 1997, and Kinch 1989). Myers (1989) concluded that good or excellent riparian conditions were maintained by grazing systems which lacked livestock use during the hot season, and recommended grazing not be allowed during the hot summer months more than once every four years. Similarly, Clary and Webster (1989) stated grazing should be avoided during mid- and late summer, and recommended early grazing, followed by complete removal of livestock. Early grazing allows significant herbaceous regrowth to occur in riparian areas, reducing most grazing damage to vegetation before higher flows occur the following spring or summer, and avoids impacts to woody plant species when livestock forage preference shifts occur.

In areas under historic season-long grazing, major vegetation changes can and have taken place with changes in livestock use. Routinely grazing an area too late in the growing season can cause adverse changes in the plant community. Individual plants are eliminated by re-grazing them during the growing season and not allowing adequate recovery after grazing. Regardless of seral stage, at least six inches of residual stubble or regrowth is recommended to meet the

requirements of plant vigor maintenance, bank protection, and sediment entrapment (Clary and Webster 1989). More than six inches of stubble height may be required for protection of critical fisheries or easily eroded streambanks and riparian ecosystem function (Clary and Webster 1989).

Over time, entire plant communities can change as a result of heavy or prolonged grazing pressure. In mountain riparian systems of the Pacific Northwest, the replacement of native bunch grass with Kentucky bluegrass has occurred in many areas. Kentucky bluegrass has established itself as a dominant species in native bunch grass meadows as a result of overgrazing and subsequent habitat deterioration. Plants in the early seral stage community do not provide as much protection for the watershed and streambanks. Many forbs and annual plants that frequently dominate early seral plant communities do not have the strong deep root systems of the later seral perennials such as bunch grasses, sedges, rushes, shrubs, and willows. Kauffman *et al.* (1982) found that when grazing in moist meadows was halted, succession towards a more mesic/hydric plant community occurred.

With the implementation of PACFISH in 1994, which stated activities "would not retard or prevent attainment of Riparian Management Objectives", many riparian areas located on Federal land in the JDR basin now have management programs in place to protect and enhance their condition. According to the BA, MNF fishery biologists, hydrologists, and range conservationists indicate that the majority of the perennial streams located on MNF-administered livestock grazing allotments are showing improving trends in grass and shrub growth, vigor, and streambank stability. These trends are noted through general observation, and documented by photographs and riparian survey data.

The MNF has implemented several conservation measures to ensure effects to MCR steelhead spawning and habitat have been avoided or minimized. Due to these efforts, many of the abovementioned effects are not realized. Many allotments have riders to herd cattle away from riparian areas. Upland water sources have been developed to reduce the need for cattle to travel to streams to drink. Sensitive riparian areas have been fenced and many pastures that have perennial streams that serve as rearing habitat for MCR steelhead are no longer grazed. Riparian areas where cattle tend to congregate are closely monitored by MNF range conservationists. Permittees are instructed to remove cattle from these areas when they are found. On allotments that do not meet utilization standards, the MNF will conduct trigger monitoring during subsequent grazing seasons to assist the permitees in moving cattle at the proper time.

Although, conservation measures described above have greatly decreased the occurrence of riparian damage, limited areas of disturbance still occur. Riparian damage due to grazing on the MNF is now mostly confined to discrete areas, particularly meadow areas where low gradient stream channels are present. Many of these areas are located on lands recently acquired by the MNF. Currently, the MNF is beginning a process to identify these areas and begin restoration efforts.

To a certain degree, the condition of riparian areas within allotments is dependant upon permitee cooperation, and the MNF is continuing efforts to work with permitees to improve grazing practices. The MNF is also taking punitive action against the permits holders of those who are chronically uncooperative.

1.7.1.1 Allotment Specific Effects

As discussed above, MCR steelhead spawn in JDR basin streams beginning as early as March and continuing through mid-June. Fry emergence occurs from late May into early July, depending on time of spawning and water temperature. Therefore, if livestock access is allowed at any time between mid-March and mid-July on streams where MCR steelhead spawn, there is potential for harassment of spawning adults or trampling of redds. Trampling of redds can result in direct mortality of eggs and pre-emergent fry in stream gravels. As described above, if riparian grazing is allowed, the best time for it to occur from a vegetation standpoint is probably during early spring to allow for regrowth of vegetation prior to the end of the growing season.

Studies (Leonard *et al.* 1997, Ehrhart and Hanson 1997, and Kinch 1989) have shown that cattle are less likely to concentrate in riparian areas during spring months because of flooding and because water and herbaceous vegetation for grazing is readily available in upland areas away from streams. By June, stream flows have receded and water and forage may be less available in upland areas. All LAA allotments covered by this Opinion contain streams where MCR steelhead are known or suspected to spawn and rear. Current MNF grazing strategies allow livestock grazing on some portions of these allotments during the time when MCR steelhead eggs or alevins may be present in stream gravels. Although not specifically addressed in these studies, it may be inferred that drought conditions might serve to congregate cattle use in riparian areas at an earlier time of the season.

Under current MNF grazing strategies for 2002 in the UJDR subbasin, livestock are scheduled to be turned out on June 1 in the Bear Creek pasture of the Dixie Allotment and in the Timber Mountain pasture of the Murderers Creek Allotment (Table 3). Cattle are scheduled to be turned out on June 11 in the Belshaw and Ennis pastures of the MV-JD-BC Allotment. Groups of 35 cow/calf pairs or less will use the Beech Creek “on-off” pasture on the MV-JD-BC Allotment as early as May 15. Surveys conducted by MNF Fisheries and Range personnel during July of 2000 found that potential steelhead spawning habitat is present in Bear Creek on the Dixie Allotment, in the South Fork Murderers Creek and Crazy Creek on the Murderers Creek Allotment, and in McClellan, Birch, and Belshaw Creeks on the MV-JD-BC Allotment. No MCR steelhead redds were found in any of these areas during 2001, but MNF personnel will survey these stream reaches for MCR steelhead redds again in 2002. If redds are located, the MNF will take measures to protect them such as electric fencing. As discussed above in Section 2 (Proposed Action), herding, salting, and upland water developments will be used on all allotments to keep cattle out of riparian areas and streams where MCR steelhead may spawn and eggs incubate prior to July 15. Monitoring will focus on riparian areas to ensure that forage utilization standards and streambank stability standards are being met.

Under current MNF grazing strategies for 2002 in the MFJDR subbasin, livestock are scheduled to be turned out on June 19 in the West Summit pasture of the Blue Mountain Allotment and on June 1 in the Lick Creek pasture of the Long Creek Allotment (Table 3). Cattle are scheduled to be turned out on June 15 in the Caribou pasture of the Upper Fork Allotment. Potential steelhead spawning habitat is present in each of these pastures (Section 4.2.1 above). MNF personnel will survey each of these stream reaches for MCR steelhead redds in 2002. Any redds located will be protected by fencing or herding cattle away from riparian areas. As discussed above in the "Proposed Action" section, herding, salting, and upland water developments will be used on all allotments to keep cattle out of riparian areas and streams where MCR steelhead may spawn and eggs incubate prior to July 15. Monitoring will focus on riparian areas to ensure that forage utilization standards and streambank stability standards are being met.

1.7.2 Cumulative Effects

"Cumulative effects" are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The "action area" for this consultation is identified in section 1.6.2 of this Opinion.

The MNF identified no specific private or state actions that are reasonably certain to occur in the future that would affect MCR steelhead or their habitat within the action area. Significant improvement in MCR steelhead reproductive success outside of Federally-administered land is unlikely without changes in grazing, agricultural, and other practices occurring within these non-federal riparian areas in the JDR basin. Given that the MCR steelhead is listed as threatened, NOAA Fisheries assumes that non-Federal land owners will take steps to curtail or avoid land management practices that would result in the take of MCR steelhead. NOAA Fisheries is not aware of any specific future actions which are reasonably certain to occur on non-Federal lands. Until improvements in non-Federal land management practices are actually implemented, NOAA Fisheries assumes that future private and state actions will continue at similar intensities as in recent years.

1.8 Conclusion

NOAA Fisheries has determined that, when the effects of the subject actions addressed in this Opinion are added to the environmental baseline and cumulative effects occurring in the action area, they are not likely to jeopardize the continued existence of MCR steelhead.

These conclusions were reached primarily because: (1) Most relevant aquatic habitat indicators on the MNF-administered livestock grazing allotments addressed in this Opinion along the mainstem JDR and tributaries, the SFJDR and tributaries, and the MFJDR and tributaries, are expected to be maintained under current grazing regimes and monitoring strategies, and relevant aquatic habitat indicators are improving in some pastures or units; (2) available MNF monitoring data indicate that implementation of current grazing season restrictions has resulted in improvement in riparian vegetation conditions on most allotments; (3) for those areas of

allotments where the attainment of RMOs is being prevented by the current grazing practices, the MNF is beginning a process to locate, identify, and plan riparian habitat improvement efforts; (4) although available data shows that some trampling of MCR steelhead redds may occur, and the percentage of redds potentially trampled can be high in certain channel types (meadow areas, C-type stream channels), improvements in the management of cattle on MNF-administered livestock grazing allotments containing or adjacent to MCR steelhead spawning areas are expected to minimize the number of redds trampled by livestock; and (5) because of improvements in riparian vegetation, stream shading, and streambank stability in most areas, aquatic habitat indicators such as water temperature, sediment, substrate embeddedness, width/depth ratio, and streambank condition are expected to be improved and be restored over the long term on JDR tributary streams. In reaching these conclusions, NOAA Fisheries has used the best scientific and commercial data available as documented herein and by the BA describing the Federal actions.

1.9 Conservation Recommendations

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. NOAA Fisheries believes that the following conservation recommendations regarding livestock grazing should be implemented:

1. Review the range improvement budget annually, and give top priority to restoring riparian areas along streams containing MCR steelhead habitat, by development of off-channel water sources and cattle-exclusion devices.

2. Review all allotments for opportunities to allow for rest, additional rest, or additional rest of high-priority pastures. Use the results of that review to reduce grazing impacts by making allotment management changes, such as more efficient grazing systems, restructuring pasture boundaries, and increasing the number of pastures within an allotment.

3. Implement grazing strategies and protective measures in order to avoid any impacts livestock may have on MCR steelhead spawning in the areas covered by this Opinion.

1.10 Reinitiation of Consultation

Reinitiation of consultation is required if: (1) The action is modified in a way that causes an effect on the listed species that was not previously considered in the BA or this Opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; (3) a new species is listed or critical habitat is designated that may be affected by the action; or (4) the amount or extent of take specified in the Incidental

Take Statement is exceeded (50 CFR. 402.16). The MNF may also be required to reinitiate consultation if the proposed actions are not consistent with conservation measures developed through the pending consultation on land and resource management plans for Federal land management units in the Mid- and Upper Columbia River basins.

2. INCIDENTAL TAKE STATEMENT

Section 9 and rules promulgated under section 4(d) of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. "Harass" is defined as actions that create the likelihood of injuring listed species by annoying it to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. "Incidental take" is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

2.1 Amount or Extent of Take

NOAA Fisheries anticipates that the subject grazing actions covered by this Opinion are reasonably certain to result in incidental take of MCR steelhead. Some level of incidental take is expected to occur within the action area as a result of livestock grazing due to the potential for cattle to actually trample MCR steelhead redds, disturbance of spawning adult steelhead, or frightening of juvenile MCR steelhead from cover by livestock wading in streams. Because of the inherent biological characteristics of aquatic species such as MCR steelhead, however, the likelihood of discovering take attributable to these actions is very small. Effects of actions such as those addressed in this Opinion are largely unquantifiable in the short term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, even though NOAA Fisheries expects some incidental take to occur due to the actions covered by this Opinion, the best scientific and commercial data available are not sufficient to enable NOAA Fisheries to estimate a specific amount of incidental take of listed fish at any life stage.

2.2 Effect of the Take

In this Opinion, NOAA Fisheries has determined that the level of anticipated take is not likely to result in jeopardy to MCR steelhead when the reasonable and prudent measures are implemented.

2.3 Reasonable and Prudent Measures

NOAA Fisheries believes the following reasonable and prudent measures are necessary and appropriate to minimize the likelihood of take of MCR steelhead resulting from the actions covered in this Opinion. The MNF shall:

1. Minimize the likelihood of incidental take resulting from livestock grazing and associated activities by managing livestock grazing allotments such that direct effects of livestock on spawning adult MCR steelhead, steelhead eggs, and pre-emergent fry in streams on or adjacent to those allotments are avoided or minimized.

2. Minimize the likelihood of incidental take resulting from livestock grazing and associated activities by managing livestock grazing allotments such that direct and indirect effects of livestock on important components of MCR steelhead habitat are avoided or minimized.

3. Complete a comprehensive monitoring and reporting program to ensure implementation of conservation measures found in this Opinion.

2.4. Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the MNF must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1 (managing livestock grazing allotments), the MNF shall:
    a. Develop written criteria to designate suitable steelhead spawning habitat and develop a written protocol for conducting steelhead spawning surveys. The criteria and protocol will be presented to the Level 1 team for approval and implemented during FY 2003.
    b. Notify NOAA Fisheries within 24 hours of any instances of unauthorized use on allotments covered by this Opinion.

c. When unauthorized livestock use[2] or excess use[3] occurs within stream reaches identified as MCR steelhead spawning habitat prior to July 15, the permittee will be notified to remove the livestock immediately. NOAA Fisheries Habitat Division, Oregon Habitat Branch, should be notified within 24 hours. Livestock shall be removed promptly after NOAA Fisheries is notified. If take of MCR steelhead has occurred, NOAA Fisheries Law Enforcement shall also be notified by the MNF within 24 hours of discovery.

d. Conduct spawning surveys in all areas identified to be surveyed in the BA. Continue surveying those areas on allotments where steelhead spawning may occur but has not been verified.

e. Maintain and ensure proper operation of all exclosure structures, such as fences, designed to protect MCR steelhead spawning and rearing.

f. Continue to review the location, relative impact, and current justification/need for existing, grazing program-related, Federal water diversions on streams that provide spawning or rearing habitat for MCR steelhead. The MNF shall ensure proper operation of diversions to avoid impact to MCR steelhead. If necessary, reinitiate consultation for effects from grazing-related diversions for these allotments.

2. To implement reasonable and prudent measure #2 (habitat), the MNF shall:

a. Comply with all reasonable and prudent measures and terms and conditions, which are applicable to grazing actions, provided in NOAA Fisheries' June 22, 1998 Opinion, "Section 7 consultation on the Effects of Continued Implementation of Land and Resource Management Plans on Endangered Species Act Listed Salmon and Steelhead in the Upper Columbia and Snake River Basins" (NMFS 1998). Specifically, these are Term and Condition 2 [Mechanism 2 (a)1 and 2(a)2 as described in Appendix 2], and Term and Condition 4 (as it applies to grazing) described in Appendix 2. Mechanisms 2(a)1 and 2(a)2 describe the development of and expectations of the Interagency Implementation Team (IIT) for livestock grazing. Term and Condition 4 reiterates the importance of the action agency exercising its existing authority under section 7(a)(1) of the ESA by carrying out programs for the conservation of endangered and threatened species.

b. Consistently implement grazing-related standards and guidelines listed in PACFISH to achieve Riparian Management Objectives regarding bank stability, water temperature, large woody material, lower bank angle, width/depth ratio and other aquatic habitat parameters which may be affected by livestock grazing.

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[2] Unauthorized use is any incident whereby livestock owned by a non-permittee enter onto the National Forest System lands.

[3] Excess use is any incident whereby livestock owned by a permittee holding a grazing permit are found in areas or at times other than shown on the grazing permit or otherwise authorized under a bill for collection.

c. Meet all requirements and fully implement the 2000 Grazing Implementation Monitoring Module and the piloted Effectiveness Monitoring Module.
d. Meet implementation and effectiveness monitoring requirements developed by the Level I Team for specific pasture units.
e. Provide the necessary training for all permittees and range riders to monitor livestock use and pasture move "triggers" (stubble height, woody utilization, and bank damage), and to clearly understand objectives stated in the BA.

3. To implement reasonable and prudent measure #3, the MNF shall:
   a. Provide an end-of-year report to NOAA Fisheries by December 1 of each year. The MNF shall follow the End-of-Year report template agreed upon by the MNF interagency streamlining level 1 team (Level 1 Team) during FY2002. The following shall be included in the report for each allotment: (1) Overview of proposed action and actual management (livestock numbers, on-off dates for each pasture, and strategy); (2) specific MNF implementation monitoring data, date, and location collected (stubble height, woody use, bank damage, unauthorized use, and fence maintenance); (3) specific permittee monitoring data; (4) review of management and compliance successes and failures and any transmittals/letters/actions addressed to/from permittees; (5) new habitat trend or MCR steelhead population data; (6) compliance with each pertinent term and condition contained in this Opinion; and (7) management recommendations for subsequent years.
   b. Provide an end-of-year grazing tour in the fall with NOAA Fisheries, USFWS, and ODFW. The tour's purpose is to review successes and failures of the current year's grazing activities, and develop recommendations for future activities. A summary of the grazing tour will be provided in the end-of-year report.
   c. Provide information, including allotment maps and spawning survey data, to be used by NOAA Fisheries Oregon Habitat Branch personnel during site visits to assess impacts of the FY2002 grazing activities on MCR steelhead. Site visits may occur at any time during the FY2002 grazing season.
   d. Identify all pastures used for livestock gathering and holding that contain streams that provide rearing or spawning habitat for MCR steelhead. The MNF shall visit each of these units and conduct a review of current habitat conditions that affect MCR steelhead (upslope, riparian, and instream) as influenced by past and current grazing practices. Provide specific results and management recommendations in the end-of-year report to NOAA Fisheries and update specific allotments' baseline conditions with any new information.
   e. Locate and identify in the end-of-year report, at least three pastures, units, or areas where grazing practices are preventing the attainment of RMOs.[4] The MNF

[4] NOAA Fisheries believes that the formulation of riparian habitat restoration plans for certain areas are necessary to ensure that grazing activities do not prevent the attainment of RMOs and to minimize adverse effects to MCR steelhead. NOAA Fisheries and Level 1 team have worked closely with the MNF to determine the number of riparian habitat restoration plans that can be developed and implemented during FY2002-FY2003.

shall develop, in conjunction with Level 1 Team, riparian habitat restoration plans for these areas to be implemented prior to the following year's turnout of livestock.

f. Send the completed report to:

NOAA Fisheries
Oregon Habitat Branch, La Grande Field Office
refer to: 2002/00510
Attn: Eric Murray
3502 Highway 30
La Grande, Oregon 97850

g. NOTICE. If a dead, injured, or sick endangered or threatened species specimen is found, initial notification must be made to the National Marine Fisheries Service Law Enforcement Office, at Vancouver Field Office, 600 Maritime, Suite 130, Vancouver, Washington 98661; phone: 360.418.4246. Care should be taken in handling sick or injured specimens to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. Besides the care of sick or injured endangered and threatened species, or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence with the specimen is not unnecessarily disturbed.

3. ESSENTIAL FISH HABITAT

3.1 Background

The objective of the essential fish habitat (EFH) consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

3.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires the inclusion of EFH descriptions in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of EFH: "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate;

"substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50 CFR 600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NOAA Fisheries shall provide conservation recommendations for any Federal or state Activity that may adversely affect EFH;
- Federal agencies shall within 30 days after receiving conservation recommendations from NOAA Fisheries provide a detailed response in writing to NOAA Fisheries regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NOAA Fisheries, the Federal agency shall explain its reason for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NOAA Fisheries is required by Federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.3 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: Chinook (*Oncorhynchus tshawytscha*), coho (*O. kisutch*), and Puget Sound pink salmon (*O.gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.4 Proposed Actions

The proposed action is detailed above in section 1.2 of the ESA portion of this Opinion. The action area is identified in section 1.6.2. of the ESA portion of this Opinion This area has been designated as EFH for various life stages of chinook salmon.

3.5 Effects of Proposed Action

As described in detail in the ESA portion of this consultation, the proposed activities may result in adverse effects to a variety of habitat parameters.

3.6 Conclusion

NOAA Fisheries believes that the proposed action may adversely affect the EFH for chinook salmon.

3.7 EFH Conservation Recommendations

Pursuant to Section 305(b)(4)(A) of the Magnuson-Stevens Act, NOAA Fisheries is required to provide EFH conservation recommendations for any Federal or state agency action that would adversely affect EFH. In addition to conservation measures proposed for the project by the MNF, all of the Reasonable and Prudent Measures and the Terms and Conditions contained in section 2.4 of the ESA portion of this Opinion are applicable to salmon EFH. Therefore, NOAA Fisheries incorporates each of those measures here as EFH conservation recommendations.

3.8 Statutory Response Requirement

The Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the MNF to provide a written response to NOAA Fisheries' EFH conservation recommendations within 30 days of its receipt of this letter. The response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on EFH. If the response is inconsistent with NOAA Fisheries' conservation recommendations, the MNF shall explain its reasons for not following the recommendations.

3.9 Supplemental Consultation

The MNF must reinitiate EFH consultation with NOAA Fisheries if either the action is substantially revised or new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920).

4. LITERATURE CITED

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this Opinion in addition to the BA and additional information requested by NOAA Fisheries and provided by the MNF.

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Appendix A. Monitoring Efforts, Move Triggers and Protective Measures for Each MNF Grazing Allotment, FY2002.

Allotment	Move Trigger	Monitoring
Balance	4-inch stubble height	The MNF will conduct end-of-season monitoring as per the Grazing Implementation Monitoring Module dated 2/14/2000.
Bear	4-inch stubble height, moderate shrub hedging, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will conduct end-of-season monitoring as per the Grazing Implementation Monitoring Module dated 2/14/2000. Level 1 monitoring will include weekly stream bank checks and steelhead spawning surveys to determine if electric fencing is needed for livestock exclusion in spawning areas.
Blue Mountain	4-inch stubble height**,** light to moderate shrub hedging, 10 percent streambank instability, spawning activity off date	Move trigger monitoring will be accomplished by the permittee. The MNF will conduct end-of-season monitoring as per the Grazing Implementation Monitoring Module dated 2/14/2000. Idaho Creek will be monitored for move triggers due to the 2001 move trigger standard not being met.
Camp Creek	4-inch stubble height, No stated shrub hedging, 10 percent streambank instability, spawning activity, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will conduct end-of-season monitoring as per the Grazing Implementation Monitoring Module dated 2/14/2000. Pastures along Camp Creek will be monitored for steelhead spawning before turnout to determine if electric fences, riders, or early removal of cattle will be needed to protect redds.
Keeney Meadows	4-inch stubble height, Moderate shrub hedging	Move trigger monitoring will be accomplished by the permittee. The MNF will conduct end-of-season monitoring as per the Grazing Implementation Monitoring Module dated 2/14/2000.

Allotment	Move Trigger	Monitoring
Long Creek	45 percent forage use, 4-inch stubble height, light shrub hedging, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will conduct end-of-season monitoring as per the Grazing Implementation Monitoring Module dated 2/14/2000, emphasis being placed on the riparian areas within the allotment. Protective measures include a rider and salt block placement away from the streams in the early turn out pastures before July 15th. The permittee will ride the allotment 5-7 days/week, to monitor distribution and utilization. Electric fencing will be used when problems are persistent and the cattle cannot be moved early. A District fishery biologist will conduct spawning surveys before turnout. A fisheries biologist will survey Long Creek in the Ladd Pasture for redds in livestock crossing areas.
Lower Middle Fork	4-inch stubble height, 6-inch on Big Creek, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will conduct end-of-season monitoring as per the Grazing Implementation Monitoring Module dated 2/14/2000. Level 1 monitoring will be for move triggers to assess the first grazing since the Summit Fire.
Slide Creek	4-inch stubble height, light shrub hedging, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will conduct end-of-season monitoring as per the Grazing Implementation Monitoring Module dated 4/14/2000. Whiskey Creek will be surveyed to determine the presence and level of steelhead spawning.
Upper Middle Fork	6-inch stubble height, light to moderate shrub use, 10 percent streambank instability, spawning activity off date	Move trigger monitoring will be accomplished by the permittee. The MNF will conduct end-of-season monitoring as per the Grazing Implementation Monitoring Module dated 2/14/2000. Level 1 monitoring requires post August 15th monitoring to determine the fencing and terrain's effectiveness in keeping livestock out of the Granite Creek stream channel and the Caribou pasture will be monitored to keep livestock out of the steelhead spawning areas prior to July 15.

Allotment	Move Trigger	Monitoring
War Canyon	4-inch stubble height, off date	Move trigger monitoring will be accomplished by the permittee. Grazing Implementation Monitoring Module dated 2/14/2000 will be used as the monitoring and evaluation criteria for this allotment in areas that best represent the typical utilization within the allotment.
York	4-inch stubble height, moderate shrub hedging, off date	Move trigger monitoring will be accomplished by the permittee. Grazing Implementation Monitoring Module dated 2/14/2000 will be used as the monitoring and evaluation criteria for this allotment, focusing on the riparian areas.
Aldrich	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. Grazing Implementation Monitoring Module dated 4/14/2000 will be used as the monitoring and evaluation criteria for this allotment.
Dead Horse	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. Grazing Implementation Monitoring Module dated 4/14/2000 will be used as the monitoring and evaluation criteria for this allotment, focusing on the riparian areas of Riley Creek. Prior to 7/15, the MNF will also monitor along the lower section of Riley Creek to determine if management activities are keeping stock out of the RHCA's.
Dixie	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas of Bear Creek, Dixie Creek, and Standard Creek. Potential steelhead spawning habitat surveys will be conducted in April and May, on Dixie Creek and Bear Creek, to determine if steelhead spawning is occurring. Redd locations will be mapped and added to the MNF GIS Layer and measures will be taken to protect redds from livestock.

Allotment	Move Trigger	Monitoring
Fawn Springs	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas. Level 1 monitoring will entail fence condition, fish passage above the waterfall on Wall Creek, spawning surveys and elk use for shrubs prior to turnout.
Ferg	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas.
Fields Peak	6-inch stubble height, light shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas. MNF personnel will also monitor riparian conditions to determine if cattle are impacting fish habitat using the key monitoring protocol.
Hanscombe	4-inch stubble height, light shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas of Laycock Creek.
Joaquin & Williams	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas.
Justice	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, spawning activity, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas.

Allotment	Move Trigger	Monitoring
Lewis, Frenchy & Poison	4-inch stubble height, light shrub hedging in riparian zones, 10 percent streambank instability, spawning activity, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas.
McClellan	4-inch stubble height, light shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas. Ranger District fishery biologists should visit McClellan Creek during the 2002 season to determine current conditions.
Mt. Vernon/JD/Beech	4-inch stubble height, moderate shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas. McClellan Creek where spawning gravel exists and Belshaw Creek downhill from the end of Road 463 will be considered key monitoring areas.

Allotment	Move Trigger	Monitoring
Murderers Creek	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, spawning activity, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the following riparian areas: • Deer Creek from MNF boundary to Dead Injun Creek; • Lower Vester, Buck, Dead Injun and North Fork Deer Creeks; • Confluence of Corral Creek to Alder Creek; • South Fork Deer Creek to above exclosures; • South Fork Murderers Creek from MNF boundary to Bark Cabin Creek; • South Fork Murderers Creek from Bark Cabin Creek to Beaverdam Creek; • Thorn and Duncan Creeks; • Crazy Creek from confluence to 1 mile upstream; • Murderers Creek from MNF boundary to Steward Cabin; and • Murderers Creek from Stewart Cabin to Guard Station; Key areas that did not pass in 2001 should be considered key areas in 2002. If the off-site water development is not successful in minimizing livestock use along the banks of the South Fork Murderers Creek, fencing of the areas where spawning habitat exists will be implemented in 2003. Level 1 monitoring will survey Thorn and Duncan Creeks to confirm salmonid use. Todd and Cabin Creeks in the Aldrich Unit will be surveyed for fish-bearing status. MNF specialists will monitor the triggers on Deer Creek within the Frenchy Unit. The timber Mountain Unit will be surveyed for steelhead redds and spawning activity prior to turnout.

Allotment	Move Trigger	Monitoring
Rosebud	4-inch stubble height except on Capps Creek, 6-inch stubble height, light shrub hedging, use standard for bank instability off date.	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the following riparian areas: • Morgan Creek • Capps Creek • Poison Creek • Rosebud Creek
Roundtop	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, spawning activity, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the following riparian areas: • Grub Creek • East Fork of Beech Creek • Lake Creek • Tinker Creek MNF should conduct surveys to determine if Tinker Creek and East Fork Beech Creek are meeting ling term riparian vegetation goals in areas where excessive grazing has been noted.
Seneca	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, spawning activity, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas of Vance Creek. Level 1 Monitoring for unauthorized use post livestock removal in areas where stragglers have been a problem.
Smoky	4- or 6-inch stubble height depending on unit, light shrub hedging, 10 percent streambank instability, spawning activity, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas of Riley Creek.
Snowshoe	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the riparian areas of Johnnie Creek, Lewis Creek, and Tamarack Creek.

Allotment	Move Trigger	Monitoring
Sugarloaf	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, spawning activity, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 4/14/2000 on this allotment, focusing on the following riparian areas: • Wickiuup Creek • Middle From Canyon Creek • Canyon Creek (to dam) • Crazy Creek Rock Springs Pasture should be monitored by MNF Personnel to document unauthorized use and bank damage.
Izee	4-inch stubble height, light to moderate shrub hedging in riparian zones, 10 percent streambank instability, spawning activity, off date	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 3/9/2000 on this allotment. Monitoring by riding Corral Creek and monitoring of unauthorized pack stock fenced within riparian areas will be done.
Lonesome & Badley	4-inch stubble height, shrub condition	Move trigger monitoring will be accomplished by the permittee. The MNF will use the Grazing Implementation Monitoring Module dated 3/9/2000 on this allotment focusing on the riparian areas of the following: • Lonesome Creek • Grasshopper Creek • Venator Creek • Bear Creek • Upper South Fork John Day • Donivan Creek
Sawtooth	4-inch stubble height, PACFISH standard	AMP dated 4/26/96 is being used, measuring ht/wt curves on all pastures including use standards of 35 percent and 45 percent on sedges and 30 percent-40 percent on shrubs to monitor utilization, focusing on Sawtooth, Scharff Cabin, and Yellow Jacket Creeks.
Deardorf	4-inch stubble height	No formal MNF Service monitoring. Permittee rides the creek every other day to check for cattle. Permittee is encouraged to conduct move trigger and end-of-use monitoring to be submitted to the District.

Allotment	Move Trigger	Monitoring
Hot Springs	4-inch stubble height	No formal trigger monitoring or unauthorized use checks will be scheduled due to the proximity to County Road 62. Permittee will monitor for livestock use along Rail Creek after August 15. Permittees will be encouraged to use move trigger and end-of-use monitoring data to be submitted to the MNF.
Indian Creek	4-inch stubble height	IIT monitoring
Rail Creek	4-inch stubble height	Key areas are along Roberts Creek, Rail Creek, JDR, Graham Creek, and Call Creek. Unauthorized use checks on Roberts, Call and Rail Creeks. None on JDR because of its proximity to County Road 62. Cattle use on River after 8/15 to be reported to the District Range Staff. Permittee will monitor livestock use along Roberts Creek, Call Creek, Rail Creek, and the mainstem JDR after 8/15.
Reynolds Creek	4-inch stubble height	MNF service monitoring: • Unauthorized use check along NF Reynolds Creek and Mossy Gulch on 7/10 to ensure cattle do not drift down to steelhead spawning areas prior to 7/15 • Mid-season checks on 7/19 and 8/1 in Reynolds Creek Unit • Meet with permittee on 8/8 to report status of moving cattle to Danish Unit • Conduct pasture move monitoring in Reynolds Unit on 8/19, 8/26, 9/3, 9/10, and 9/17 • Mid season check on Danish Unit. • Permittees will be encouraged to conduct move trigger and end-of-use monitoring to be submitted to the MNF. Permittees will accompany MNF personnel during monitoring trips.